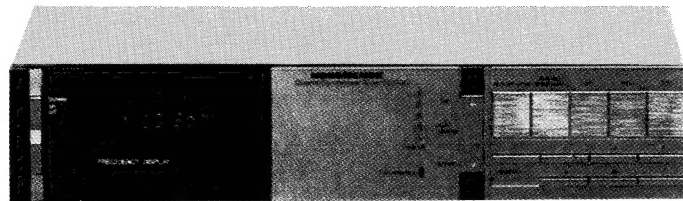
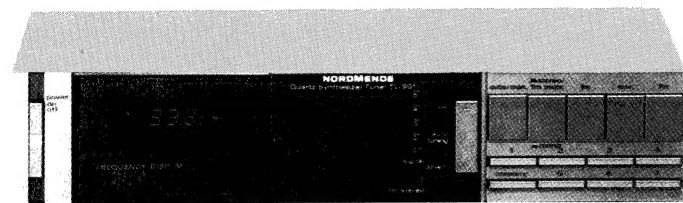


# TECHNISCHER KUNDENDIENST

## Service-Information



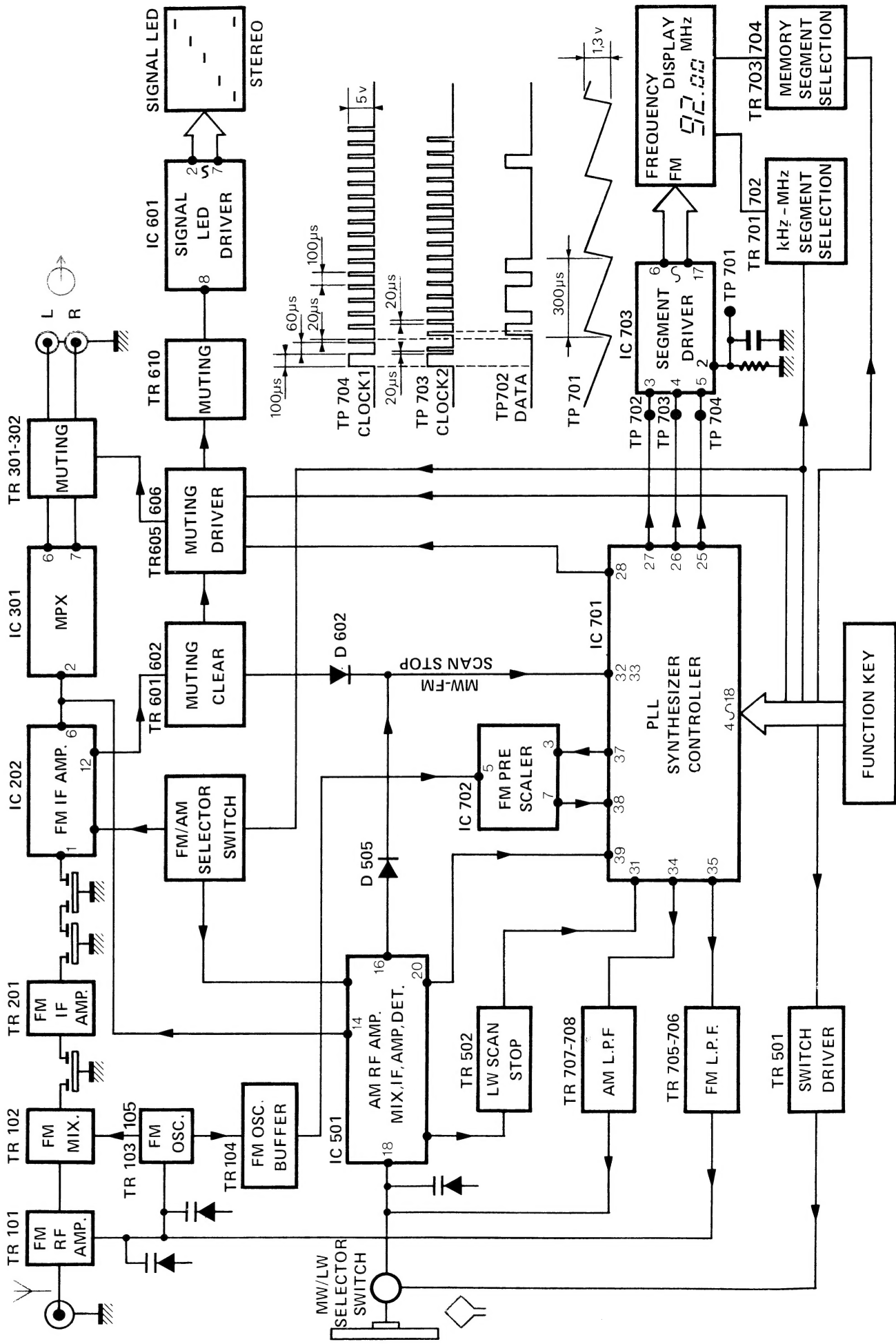
**Tuner TU 990 984.152 H**

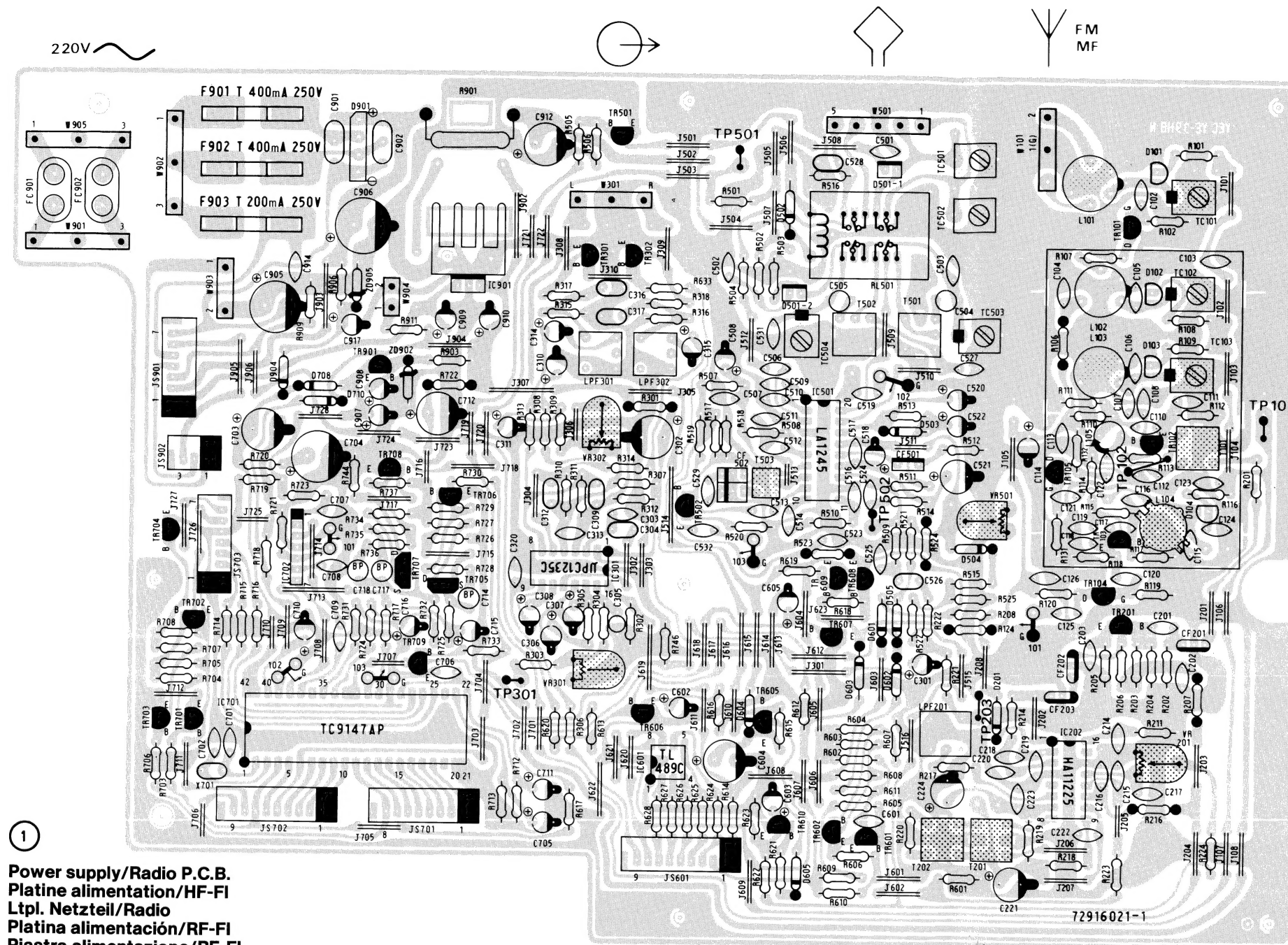


**Tuner TU 991 984.154 H**

Technical data · Caractéristiques principales · Technische Daten Características del aparato · Dati tecnici			
<b>Type of set :</b> 3 band synthesizer tuner <b>Type d'appareil :</b> Récepteur de radiodiffusion à synthétiseur <b>Geräteart :</b> Tuner, 3 Wellenbereiche mit Synthesizer <b>Tipo de aparato :</b> Sintonizador estereofónico con sintetizador <b>Tipo d'apparecchio :</b> Radioricevitore 3 gamme d'onda con sintetizzatore	350 mm 70 mm 260 mm 3,6 kg		
<b>Power supply and consumption :</b> <b>Alimentation et consommation :</b> <b>Stromversorgung und Leistungsaufnahme :</b> 220 V ~ 8 W <b>Alimentación y consumo :</b> <b>Alimentazione i consumo :</b>	<b>FM-MF :</b> 87,5 - 108 MHz <b>FM-IF :</b> 10,7 MHz <b>MW-PO :</b> 522 - 1 611 kHz <b>LW-GO :</b> 153 - 360 kHz <b>AM-IF :</b> 450 kHz		
<b>Sensitivity :</b> FM-MF mono: 0,8 µV (S/N = 26 dB, ± 40 kHz) <b>Sensibilité :</b> FM-MF stereo: 30 µV (S/N = 46 dB, ± 40 kHz) <b>Eingangsempfindlichkeit :</b> FM-MF stereo: 30 µV (S/N = 46 dB, ± 40 kHz) <b>Sensibilidad :</b> MW-PO: 250 µV/m (S/N = 20 dB) <b>Sensibilità :</b> LW-GO: 600 µV/m (S/N = 20 dB)	<b>Selectivity :</b> FM-MF: 65 dB (± 300 kHz) <b>Sélectivité :</b> FM-MF: 65 dB (± 300 kHz) <b>Trennschärfe :</b> AM-MA: 40 dB (± 9 kHz) <b>Selectividad :</b> AM-MA: 40 dB (± 9 kHz) <b>Selettività :</b> AM-MA: 40 dB (± 9 kHz)		
<b>Total harmonic distortion :</b> <b>Distorsion harmonique :</b> FM-MF: 0,15% <b>Klirrfaktor :</b> AM-MA: 1,5% <b>Distorsión armonica :</b> <b>Distorsione armonica :</b>	<b>Frequency response :</b> FM-MF: 20 Hz - 15 kHz <b>Courbe de réponse :</b> FM-MF: 20 Hz - 15 kHz <b>Frequenzgang :</b> MW-PO: 50 Hz - 2,5 kHz <b>Curva de respuesta :</b> LW-GO: 50 Hz - 1,5 kHz <b>Curva di riposta :</b>		
<b>Stereo separation :</b> <b>Diaphonie :</b> 40 dB f = 1 kHz <b>Übersprechdämpfung :</b> 40 dB f = 1 kHz <b>Diaphonia :</b> <b>Diaphonia :</b>	<b>S/N ratio :</b> 70 dB (40 kHz - 1 mV) <b>Rapport S/B :</b> 70 dB (40 kHz - 1 mV) <b>Geräuschspannungsabstand :</b> 70 dB (40 kHz - 1 mV) <b>Relación señal/ ruido :</b> 70 dB (40 kHz - 1 mV) <b>Rapporto segnale/ disturbo :</b>		

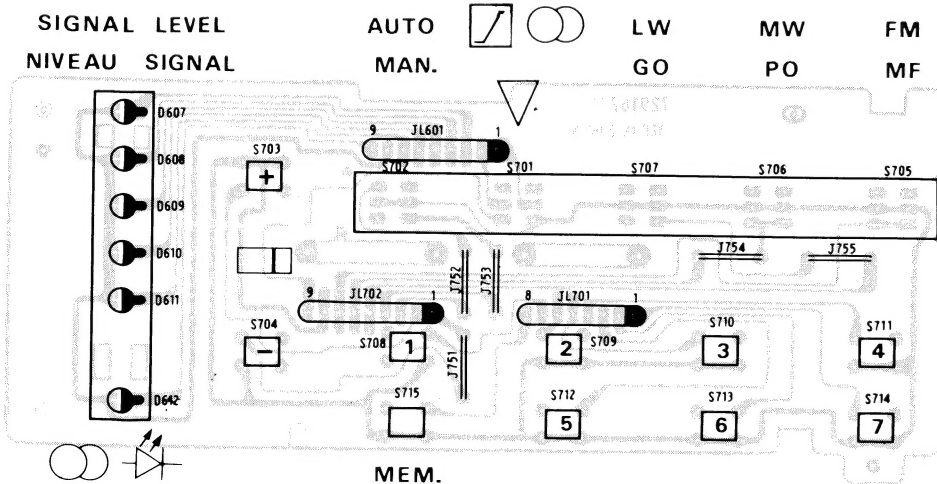
**NORDMENDE**





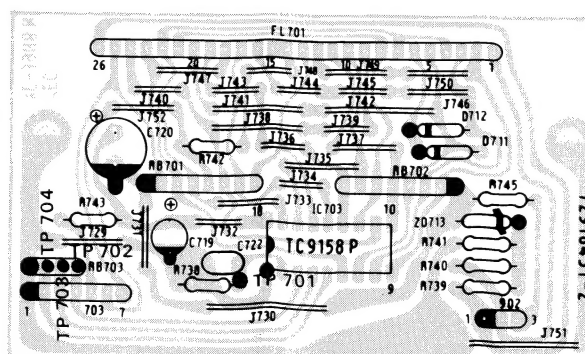
1

P.C.B. Pretuning  
Platine présélection  
Ltpl. Festsendereinstellung  
Platina preselección  
Piastra di preselezione

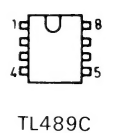
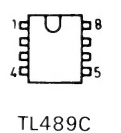
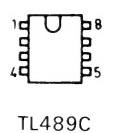
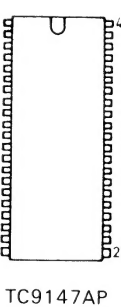
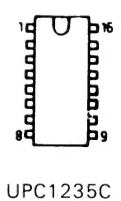
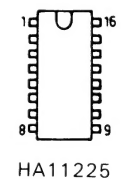
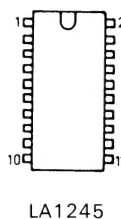
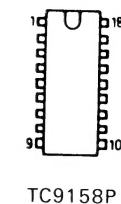


3

Frequency Display P.C.B.  
Platine afficheur  
Ltpl. Frequenzsyntheseanzeige  
Platina indicador de Frecuencia  
Piastra indicatore di Frequenza



Component side  
Côté composants  
Bestückungsseite  
Lado componentes  
Lato componenti

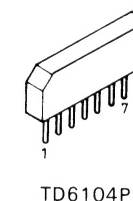


1	0	10	FM.MWO,2 LW - 4.5
2	2.5	11	FM.MWO,2 LW - 9.3
3	0	12	FMO,2 MW - 14.3 LW - 4.5
4	0	13	FM.LW - 15.3 MW - 15.6
5	0	14	FM.LW - 15.3 MW - 15.6
6	FM - 4.6 MW - 9.5 LW - 9.3	15	FM.LW - 15.3 MW - 15.6
7	FM - 9.2 MW - 14.3 LW - 4.5	16	FM.LW - 15.3 MW - 15.6
8	FM - 9.2 AM - 14.2	17	FM.LW - 15.3 MW - 15.6
9	FM4.8 MW - 14.4 LW - 4.5	18	5.1

1	MW2,6 LW4	11	0.7
2	MW2,3 LW2,2	12	0
3	2.8	13	3
4	0	14	10.1
5	MW9,2 LW8,9	15	1.4
6	2.1	16	MW8,7 LW7,6
7	9.4	17	MW3 LW2,9
8	9.4	18	5.5
9	2.8	19	5.5
10	MW7,8 LW7,9	20	2.7

1	FM1,9 AM2,6	9	5.6
2	FM1,9 AM3,1	10	5.6
3	FM1,9 AM2,6	11	FM10,6 AM10,9
4	0	12	FMO,2 AM4,9
5	-	13	FM3,8 AM0,2
6	5.6	14	0
7	FM5,6 AM6,4	15	-
8	5.6	16	3.4

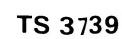
1	10,9	9	FM10,1 AM10,8
2	2,4	10	2,4
3	5,2	11	2,4
4	8,8	12	2,4
5	8,8	13	2,4
6	4,4	14	2,4
7	4,4	15	FM3,2 AM 0,3
8	0	16	FMO,2 AM10,2

























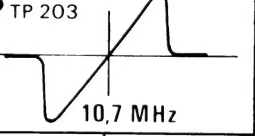







1	5
2	-
3	FM3,9 AM4,2
4	0
5	3,4
6	3,5
7	FM2,9 AM0



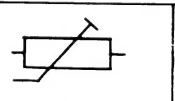



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2	2,1	12	0	22	0	32	FM4,4 MW4,7	42	5,2
3	2,1	13	0	23	0	33	FM4,4 MW4,7		
4	FM4,6 AM0	14	0	24	-	34	0,5		
5	FM.LWO MW4,8	15	0	25	0	35	0,5		
6	FM.MWO LW4,6	16	0	26	0	36	-		
7	FM 5 AM 5,1	17	0	27	0	37	FM2,1 AM5		
8	0	18	0	28	0	38	FM2,8 AM0		
9	0	19	-	29	0	39	FM5 AM2,1		
10	0	20	0	30	5,1	40	5,1		



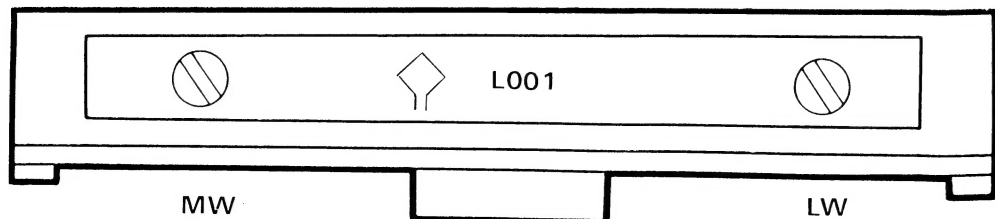


AM Alignment						
		30% mod. 1 kHz 	f			
IF	1	$V_e \approx 10 - 100 \text{ mV}$	450 kHz		T 503	TP 502 Max
MW	2			522 kHz 	T 501	TP 501 1.0 V
	3			 1 611 kHz	TC 503	8.0 V
PO	4	$V_e \approx 500 \mu\text{V/m}$	603 kHz	603 kHz 	L 001 - MW	Max.
	5		1 404 kHz	 1 404 kHz	TC 501	
LW	6			153 kHz 	T 502	TP 501 1.0 V
	7			 360 kHz	TC 504	8.0 V
GO	8	$V_e \approx 500 \mu\text{V/m}$	160 kHz	160 kHz 	L0 01 - LW	Max.
	9		320 kHz	 320 kHz	TC 502	
	10	$V_e = 1 \text{ mV}$ 	900 kHz	900 kHz 	VR 501	D 607 ~ 611  ON

FM Alignment						
			f			
IF	1	 > 10 mV	10,7 MHz		T 101	TP 203 Max
FI	2				T 201	TP 203 
ZF	3				T 202	
		TP 102				
FM	4			87,5 MHz 	L 104	TP 101 2.0 V
	5			 108 MHz		< 9 V
MF	6	 $V_e \approx 500 \mu\text{V/m}$	90 MHz	90 MHz 	L 101 ~ L 103	Max.
	7		106 MHz	 106 MHz	TC 101 ~ TC 103	
	8	$V_e = 1 \text{ mV}$	98 MHz	98 MHz 	VR 201	D 607 ~ 611  ON

Decoder Alignment						
		 $\Delta f = 22,5 \text{ kHz}$	f			
	1	1 mV stéréo	98 MHz	98 MHz 	VR 301	TP 301 f = 76 kHz
	2		98 MHz	98 MHz 	VR 302	Max. Separation

REPEAT ALIGNMENT / REPETER CES REGLAGES / ABGLEICH WIEDERHOLEN / REPETIR ESTOS REGLAJES / RIPETERE TARATURE



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Nicosia, Zypern

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Alger

**Australien**  
J.B.C. Nordmende  
99-105 Queensbridge street  
South Melbourne 3205  
Victoria, Australia

**Hongkong**  
Forward Intern. Corp. Ltd.  
RMS. 2801-4  
International Building  
141, Des Voeux Road Central  
Hongkong

**Indonesien**  
P.T. Central Intone Intern. Ltd.,  
P.O. Box 737, Jakarta

**Irak**  
Iraqi Trading Company  
P.O.B. 17, Bagdad

**Jordanien**  
JSSA MURRAD & SONS & CO.  
Mezdar Street  
P.O. Box 6549, Amman

**Kenya**  
BS Mohindra & Co. Ltd.  
Mfangano Street, Avon House  
P.O. Box 41832, Nairobi

**Kuwait**  
Maseelah Trading Comp. W.L.L.  
Vertriebsges.m.b.H.  
Canada-Dry-Street,  
Shuwaikh Kuwait

**Libanon**  
TELETRADE S.A.R.L.  
516 Corniche du Fleuve  
P.O. Box 11-0125  
Beirut

**Libyen**  
THE GENERAL ELECTRONICS CO.  
P.O. Box 2068  
Benghazi

**Malaysia**  
Wah Chang Intern. Corp.  
P.O. Box 6540 Kg. Tunku  
Selangor

**Nigeria**  
Universal Electronics  
17/19, Abebe Village Rd. Iganmu  
P.O. Box 2391  
Lagos

**Pakistan**  
Associated Electronics Ltd.  
7, Egerton Road  
P.O.B. 353  
Lahore

**Saudi Arabien**  
MAHMOOD SALEH ABBAR  
P.O. Box 461  
Jeddah

**Singapore - 7**  
Forward International  
Singapore (Private) Limited  
177 F. Selegie Complex  
Selegie Road

**Sri Lanka**  
Shamim Group Limited  
145, Kynsey Road  
P.O. Box 1802  
Colombo

**Sudan**  
Sheet Metal Industries Ltd.  
P.O. Box 112  
Khartoum

**Thailand**  
Vanich NORDMENDE Part,  
277, Rachdamri Road,  
Bangkok Plaza Centre

**Tunesien**  
Société Générale  
d'Electronique  
2, Rue Charles de Gaulle  
Tunis

**Uruguay**  
Plisol S.A.  
Avda. D. Fernandez  
Crespo 2117  
Montevideo

**Vereinigte Arabische Emirate**  
Allied Electronics Ltd.  
P.O. Box 4418 / Dubai  
General Enterprises Co.  
P.O.B. 289  
Abu Dhabi

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